

Appl. No. 10/669,959
Amdt. Dated Feb. 24, 2005
Reply to Office Action of Dec 30, 2004

REMARKS

Applicant appreciates the Examiner's allowance of claim 11 and indication of allowabilities of claims 6, 8, and 9.

Claim Objections

Claim 10 is objected to because of the following informalities: in line 2 change "an" to -the-.

In response to the above rejections, Applicants have carefully amended claim 10 to overcome the informality problem.

Claim Rejections under 35 U.S.C. 102

Claim 1-7, 10, 13 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Cosmo (4,477,133).

Applicants respectfully traverse the rejection about claim 1 due to the following reasons.

Regarding claim 1, an electrical connector defined therein comprises a dielectric housing defining a passageway extending from a first face to a second face which is adjacent to the first face, an electrical contact received in the passageway and being movable with respect to the housing, **a biasing spring arranged in the housing and applying a driving force to the contact** and an actuator **coupled with the contact and actuating the contact within the passageway.**

Referring to FIGS. 2-3 of Cosmo, an electrical connector assembly 10 for

Appl. No. 10/659,909
Amdt. Dated Feb. 24, 2005
Reply to Office Action of Dec 30, 2004

interconnecting two printed circuit board 52, 50 defined therein comprises a housing 12 defining a passageway longitudinally extending from a first face (not marked) to a second face (not marked) which is opposite to the first face, a plurality of contacts 26 received in the housing 12, a substantially U-shaped contact holder 36 coupled with the contacts 26, a cam 40 being disposed between the U portion of the contact holder 36, a actuator mechanism 42 being attached to the cam 40.

Further referring to Column 3, lines 15-30 of Cosmo, lateral movement of actuator mechanism 42 urges the cam 40 to downwardly move. This downward movement of cam 40 causes the contact holder 36 which impinges upon the contact pivot point 37 to resiliently flex thereby causing the contacts 26 to be forced downwardly and outwardly so as to come in contact with the electrical post contacts 30 and the contact strips 54.

It is noted that "couple" means "to link" or "connect", however, the drawings and description of Cosmo does not disclose that the actuator mechanism 42 is coupled with the contacts 26 and actuates the contact 26. In contrary, the actuator mechanism 42 is coupled with the cam 40 and actuates the cam 40 to downwardly move. The downward movement of cam 40 further urges the contacts 26 to move within the passageway 24 through the contact holder 36.

In addition, in the instant invention, **the biasing spring apply a driving force to the contact**, however, the contact holder 36 of Cosmo urges the contact 26 via the actuating of the actuator 42 (refer to Column 3, Lines 25-32 of Cosmo).

Therefore, claim 1 is not anticipated by Cosmo.

Claim 2 is allowable since it directly dependent from claim 1.

Claim 3 depending from claim 1 further recites the passageway defining a first opening in the first face adapted for facing a first printed circuit board and a second opening in the second face adapted for facing a second printed circuit board

Appl. No. 10/559,969
Amendment Dated Feb. 24, 2005
Reply to Office Action of Dec 30, 2004

which is perpendicular to the first printed circuit board.

However, Cosmo defines the passageway 24 longitudinally extending ~~from~~ a first face to a **second face opposite to the first face** (refer to FIG.1 of Cosmo). Apparently, the first opening defined in the first face can not be perpendicular to the second opening defined in the second face.

Therefore, claim 3 should carry more patentability in addition to dependent from claim 1.

Claims 4-5 should be allowable since they are dependent from claim 1, indirectly.

Claim 7 should be allowable since it is dependent from claim 1, indirectly.

Claim 10 should be allowable since it dependent from claim 1, directly.

In regard to claim 13:

In original description, claim 13 is dependent from claim 11, however, in second response, claim 13 was dependent from claim 1 by mistake (typo).

In response to the rejection, applicant would like to note Examiner that claim 13 is now correctly dependent from claim 11 as shown in the originally filed claims.

Claim 11 is allowed by Examiner.

Claim 13 depending from claim 11 further recites the first and the second faces are perpendicular to each other.

However, Cosmo discloses the passageway extending from a first face to a **second face opposite to the first face** (refer to FIG. 1), apparently, the first face is not perpendicular to the second face.

Appl. No. 10/669,969
Amdt. Dated Feb. 24, 2005
Reply to Office Action of Dec 30, 2004

Therefore, claim 13 is patentable over Cosmo for reason of not only its dependency upon claim 11 but also its own novelty.

In regard to claim 26:

Applicants has canceled claim 26.

Claims 1 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Buck et al. (5,069,627).

Regard to amended 1, an electrical connector defined therein comprises a **dielectric housing defining a passageway extending from a first face to a second face** which is adjacent to the first face, an electrical contact received in the passageway and being movable with respect to the housing, a biasing spring arranged in the housing and applying a driving force to the contact and an actuator directly coupled with the contact and **actuating the contact within the passageway.**

Referring to FIG. 7 of Buck et al., an electrical connector 20 for interconnecting with a first and a second printed circuit boards 30, 32 defined therein comprises a first housing 24 and a second housing 22 engaging with the first housing 24, a contact 26 received in the connector 20, a resilient bias means 44 biasing the contact 26 into electrically connect the first and the second printed circuit boards 30, 32, **an aligning projection 74 (Column 5, Lines 60-65) coupled with the contact 26 to correctly align the contact 26 to a mother circuit board.** Apparently, the aligning projection 74 of Buck et al. does not actuate the contact 26 within the passageway. Therefore, the aligning projection 74 of Buck et al. is totally different from the actuator of the instant invention.

Therefore, claim 1 is patentable over Buck et al.

In regard to claim 13:

Appl. No. 10/669,969
Amdt. Dated Feb. 24, 2005
Reply to Office Action of Dec 30, 2004

In original description, claim 13 is dependent from claim 11, however, in second response, claim 13 was dependent from claim 1 by mistake (typo).

In response to the rejection, applicant would like to note Examiner that claim 13 is now dependent from claim 11 by correcting the previous dependency typo.

Claim 13 is dependent from claim 11 which is allowed by Examiner and further recites the first and the second faces are perpendicular to each other.

Moreover, referring to FIG. 7 of Buck et al., the passageway (not labeled) for receiving the contact 26 is substantially M shaped and extends from the first face 42 to the second face 40 parallel to the first face 42. Apparently, the first face 42 can not be perpendicular to the second face 40.

Therefore, claim 13 is patentable over Buck et al. for reason of not only its dependency upon claim 11 but also its own novelty.

Claims 1, 10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hikami et al. (4,846,729).

Regard to claim 1, an electrical connector for interconnecting two printed circuit boards defined therein comprises a dielectric housing defining a passageway extending from a first face to a second face which is adjacent to the first face, an electrical contact received in the passageway and being moveable with respect to the housing, a biasing spring arranged in the housing and applying a driving force to the contact, **an actuator coupled with the contact and actuating the contact within the passageway.**

Referring to FIGS. 4-5 of Hikami et al., it discloses a dielectric housing 1 defining two rows of chamber 2, a conductive contact 3 received in the chamber 2 of the housing 1, a shape spring 5 coupled with the conductive contact 3, a heater 7 adjacent to the shape spring 5. **When the shape spring 5 is heated by the heater 7 to a higher temperature (refer to Column 4, Lines 29-35), the shape spring 5**

recovers the shape stored in advance (as shown in FIG. 5) to press the conductive contact 3 by the recovery force to connect the contact 10. Apparently, the heater 7 disclosed by Examiner **does not coupled** with the contact 3. In addition, the heater 7 does not actuate the contact 3 within the passageway but only heat the shape spring 5. Therefore, the heater 7 disclosed by Examiner is totally different from the actuator in the instant invention.

Therefore, claim 1 is patentable over Hikami et al.

Claim 10 depending from claim 1 and further recites the actuator **applying a force** to the contact so as to moveably actuate the contact.

Referring to Column 4, Lines 29-35 of Hikami et al., the heater 7 does not applying a force to the contact 3 but heat the shape spring 5.

Therefore, claim 10 should carry more patentability in addition to dependent from claim 1.

In regard to claim 13:

In original description, claim 13 is dependent from claim 11, however, in the second response, claim 13 was dependent from claim 1 by mistake (typo).

In response to the rejection, applicant would like to note Examiner that claim 13 is now correctly dependent from claim 11 as shown in the originally filed claims.

Claim 13 depending from claim 11 which is allowed by Examiner, further recites the first and the second faces are perpendicular to each other.

However, the chamber 2 defined in the housing 1 extends through a top face to a bottom face (referring to FIG. 1). Apparently, the top face is not perpendicular to the bottom face which is opposite to the top face. In addition, the first and the second face designated by Examiner are two faces defined within the

Appl. No. 10/559,969
Amtd. Dated Feb. 24, 2005
Reply to Office Action of Dec 30, 2004

matter of fact, the second face disclosed by Examiner is a chamfer. Thus, the vertical first face can not be perpendicular to the chamfer 2.

Therefore, claim 13 is patentable over Hikami et al. for reason of not only its dependency upon claim 11 but also its own novelty.

Claim rejections-35 U.S.C 103

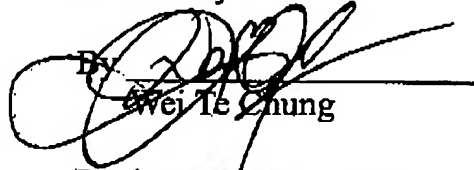
Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cosmo (4,477,133).

Applicant canceled claim 25.

Applicant has added claims 27-29 which respectively contain the subject matters of the original claims 6, 8 and 9, which the Examiner already indicated the allowabilities thereof (page 9 of the office action), while being in an independent form, respectively. Allowance of claims 27-29 is respectfully requested.

In view of the above claim amendments and remarks, the subject application is believed to be in a condition for allowance and an action to such effect is earnestly solicited.

Respectfully submitted,
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